

REMARKS

The present application has been reviewed in light of the Office Action dated September 30, 2008. Claims 1, 4, and 25-30 are presented for examination, of which Claims 1, 25, 27, and 29 are in independent form. Claims 1, 4, and 25-30 have been amended to define aspects of Applicant's invention more clearly. Favorable reconsideration is requested.

The Office Action states that Claims 1, 4, and 25-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,057,893 (Kojima et al.) in view of U.S. Patent No. 5,774,624 (Enari). For at least the reasons presented below, Applicant respectfully traverses the rejections and submits that independent Claims 1, 25, 27, and 29, together with the claims dependent therefrom, are patentably distinct from the cited references.

Claim 1 is directed to an image pickup apparatus that includes image pickup means, encoding means, recording means, transmission means, and control means. The encoding means encodes a moving image signal output from the image pickup means using an intra-encoding method and an inter-encoding method to generate an encoded image signal, which includes an intra-encoded picture encoded by the intra-encoding method and an inter-encoded picture encoded by the inter-encoding method. The encoding means extracts an image signal of a picture for every n pictures (n being an integer greater than or equal to two) from the moving image signal and encodes the extracted image signal by the intra-encoding method, to thereby generate the intra-encoded picture for every n pictures. The encoding means encoding image signals of a plurality of pictures included between adjacent extracted pictures, which are extracted for every n pictures, by one of the intra-encoding method and the inter-encoding method.

The recording means records the encoded image signal generated by the encoding means on a recording medium, and the transmission means transmits the encoded image signal generated by the encoding means to an external apparatus while maintaining an encoded state of the encoded image signal. The control means controls the encoding means and the recording means in accordance with an instruction to start a recording operation to change a number of the intra-encoded pictures interposed between the adjacent extracted pictures, so that the encoding means generates the intra-encoded picture for every n pictures even if the instruction to start the recording operation is issued during transmission of the encoded image signal.

An important feature of Claim 1 is that, even if an instruction to start a recording operation issues during transmission of an encoded moving image signal, the control means controls the encoding of the moving image signal by the encoding means to change the number of intra-encoded pictures interposed between adjacent extracted pictures. The extracted pictures are extracted for every n pictures and are intra-encoded. *That is, the change in the number of interposed intra-encoded pictures takes place even if the start-recording instruction issues during transmission of the encoded signal.* Notably, the encoding means continues to generate an intra-encoded picture for every n pictures even if the start-recording instruction is detected, so that the encoded signal always includes at least an intra-encoded picture generated at the same interval (i.e., for every n pictures). By virtue of this feature, a complicated decoding mechanism is not required to decode a moving image signal encoded by the encoding means of the image pickup apparatus of Claim 1.

Kojima et al. and Enari have been discussed in previous responses to Office Actions. Kojima et al. discloses that, if a scene change is detected, a P (inter-encoded) picture

occurring immediately after the detected scene change is changed to an I (intra-encoded) picture. That is, after the detected scene change, the next P picture is changed to an I picture (“P → I picture”). According to Kojima et al., an I picture occurring before the P → I picture is changed to a P picture, and/or an I picture occurring after the P → I picture is changed to a P picture. Enari discloses that before recording starts *all* pictures or frames are I pictures (i.e., all earlier frames are intra-encoded), and after recording starts the frames are encoded so that the encoded frames include I pictures and P pictures.

It is alleged in the Office Action that a person of ordinary skill in the art would find the apparatus of Claim 1 to be obvious in view of the combined teachings of Kojima et al. and Enari, which combination allegedly would apply or substitute the detection of a start-recording event, as taught by Enari, to the detection of a scene-change event, as taught by Kojima et al. Applicant respectfully submits, however, that even if the teachings of Kojima et al. could be properly combined with the teachings of Enari, such combination nevertheless would fail to disclose the important feature of Claim 1 discussed above.

Firstly, neither Kojima et al. nor Enari describes or suggests changing the number of intra-encoded pictures interposed between adjacent extracted pictures of an encoded signal, the extracted pictures being extracted for every n pictures and being intra-encoded, in accordance with a start-recording instruction, even if the start-recording instruction issues during transmission of the encoded signal. As noted above, the encoding means of Claim 1 continues to generate an intra-encoded picture for every n pictures even if the start-recording instruction is detected, so that the encoded signal always includes at least an intra-encoded picture generated at the same interval (i.e., for every n pictures). Because the cited references are silent regarding this

important feature of Claim 1, Applicant respectfully submits that it cannot be properly concluded that a person of ordinary skill in the art would find it obvious to implement such a feature based on the combined teachings of these references.

Secondly, it is respectfully submitted that at most a hypothetical combination of the teachings of Kojima et al. and Enari would result in an encoding procedure that, if a start-recording instruction is detected, a P picture occurring immediately after the detected instruction would be changed to an I picture (i.e., the $P \rightarrow I$ picture), and an I picture occurring before the detected instruction (i.e., before the $P \rightarrow I$ picture) is changed to a P picture and/or an I picture occurring after the detected instruction (i.e., after the $P \rightarrow I$ picture) is changed to a P picture, based on the hypothetical substitution of the scene-change detection of Kojima et al. with the start-recording detection of Enari. This combination, however, does not change the number of intra-encoded pictures interposed between adjacent extracted pictures; that is, this combination would not disclose the important feature of Claim 1 discussed above.

The Office Action refers to Figs. 12 A and 12B of Kojima et al., and alleges that these figures show a change in the number of I pictures included in GOP2. It is respectfully submitted, however, that these figures merely show how changes from I pictures to P pictures can occur when Fig. 12A is compared with Fig. 12 B, but these figures do not show or suggest that an I picture continues to be generated for every n pictures even if an event (e.g., a scene change or a start-recording instruction) is detected, nor do these figures show or suggest that the change takes place in accordance with an event (e.g., a scene change or a start-recording instruction). In fact, as shown in Fig. 12A, SC1 and SC2 denote scene-change events, but nothing in this figure would indicate that the number of intra-encoded pictures interposed between adjacent extracted pictures

of an encoded signal changes in accordance with a scene-change event (SC1 or SC2). Similarly, Fig. 12B show scene-change events at SC1 and SC2, but nothing in this figure would indicate that the number of intra-encoded pictures interposed between adjacent extracted pictures of an encoded signal changes in accordance with a scene-change event (SC1 or SC2).

In summary, Applicant submits that a combination of Kojima et al. and Enari, assuming such combination would even be permissible, would fail to teach or suggest an image pickup apparatus that includes “encoding means for encoding a moving image signal output from the image pickup means using an intra-encoding method and an inter-encoding method to generate an encoded image signal including an intra-encoded picture encoded by the intra-encoding method and an inter-encoded picture encoded by the inter-encoding method, the encoding means extracting an image signal of a picture for every n pictures (n being an integer greater than or equal to two) from the moving image signal and encoding the extracted image signal by the intra-encoding method, thereby generating the intra-encoded picture for every n pictures, and the encoding means encoding image signals of a plurality of pictures included between adjacent extracted pictures, which are extracted for every n pictures, by one of the intra-encoding method and the inter-encoding method,” and “control means for controlling the encoding means and the recording means in accordance with an instruction to start a recording operation, issued during transmission of the encoded image signal by the transmission means, to change a number of the intra-encoded pictures interposed between the adjacent extracted pictures so that the encoding means generates the intra-encoded picture for every n pictures even if the instruction to start the recording operation is issued,” as recited in Claim 1. Accordingly, Applicant submits that Claim 1 is patentable over the cited references, and respectfully requests

withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claims 25, 27, and 29 include features similar to those of Claim 1 and are believed to be patentable for at least the reasons discussed above. Additionally, the other claims in the present application depend from one or another of Claims 1, 25, 27, and 29 and therefore are submitted to be patentable for at least the same reasons. However, because each dependent claim also is deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and an early passage to issue of the present application.

No petition to extend the time for response to the Office Action is deemed necessary for this Amendment. If, however, such a petition is required to make this Amendment timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 50-3939.

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Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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